ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDBRA1N290
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Lesquerella navajoensis* O'Kane
COMMON NAME: Navajo bladderpod
SYNONYMS: *Physaria navajoensis* (O'Kane) O'Kane & Al-Shehbaz
FAMILY: Brassicaceae

AUTHOR, PLACE OF PUBLICATION: *Lesquerella navajoensis* O'Kane, Madroño 46(2): 88-91, f. 1-2. 1999. *Physaria navajoensis* (O'Kane) O'Kane & Al-Shehbaz, Novon 12(3): 325. 2002.

TYPE LOCALITY: USA, New Mexico, McKinley County, ca. 2 air miles NE of Thoreau on bench below and SE of Mt. Powell, 7600 feet (2316 m) elevation.

TYPE SPECIMEN: HT: MO-5161840. S.L. O'Kane, Jr. & D. Roth 4232, 23 May 1998. IT: BRY, COLO, GH, ISTC, NMC, NY, RM, UNM.

TAXONOMIC UNIQUENESS: Species *navajoensis* is 1 of 77 in the genus *Lesquerella*, and 1 of 14 species in Arizona.

DESCRIPTION: Low cushion forming, herbaceous perennial, from a thick taproot. The herbage is silvery-gray, and densely covered with overlapping stellate trichomes; the hair usually with 5 main rays, each twice bifurcate into 20 tips, rays somewhat fused near the center by a thin, narrow webbing; stems crowded, buried among and not exceeding the leaves. Leaves entire, linear-oblanceolate, tapering to base, 3-8(-13) x 0.7-1.4 mm. The flowers and fruit are in dense few-flowered subcorymbose racemes at the apex of the flowering stems, barely (or not) exceeding the leaves; pedicels straight too slightly sigmoid. Sepals 4, yellow-green, 3.7-4.8 mm long; petals 4, 5.2-6.5 mm long, spatulate, deep yellow, and faintly orange at the junction of the blade and claw. Fruits slightly inflated silicles, ovate, glabrous, becoming reddish to copper colored at maturity; styles 1.8-3 mm long in fruit. Seeds suborbicular-ovoid, 1.5-2.4 x 1.3-1.9 mm, strongly mucilaginous when wetted. (Roth 2001, Sivinski 2002).

AIDS TO IDENTIFICATION: *Lesquerella fendleri* (Fendler bladderpod) has a deep orange "eye" (the veins of the petals near the eye are also orange), the petals are much larger, the stellate trichomes are webbed for at least half the length of the rays, and the stems and leaves are longer. (Roth 2001, Sivinski 2002). *L. navajoensis* has a faint orange eye and no orange veins, the flowers are much smaller and the trichomes are not webbed. Additionally, *L. navajoensis* flowers and forms fruits earlier than does *L. fendleri*. (Roth 2001). *Lesquerella arizonica* (Arizona

bladderpod) is allopatric and has strongly pubescent rather than glabrous fruits. The rare *L. tumulosa* (Kodachrome bladderpod) of south-central Utah is very similar to *L. navajoensis*, except that its seed are not mucilaginous and its petals are uniformly yellow. (Sivinski 2002).

ILLUSTRATIONS: Color photos of plant and habitat (S. O'Kane, *in* Sivinski 2002 at http://nmrareplants.unm.edu/reports/lesnav.htm)
B&W silhouette (O'Kane 1999, *in* Sivinski 2002 at http://nmrareplants.unm.edu/drawings/lesnav.htm)
Color photo of Holotype (MO-5161840, MBG, *in* http://mobot.mobot.org/cgi-bin/search_vast)
Color photo of Isotype (NY-335773, NYBG, *in* http://207.156.243.8/emu/vh/specimen.php?irn=450069)

TOTAL RANGE: In New Mexico on mesa rims NW of Thoreau and Continental Divide, and Chuska Mts, at Todilto Park, McKinley County. In Arizona, from the Red Valley area (N of Navajo, NM) to Wheatfields Lake, Apache County. Sivinski (2002) also includes Kane County, Utah, in its range.

RANGE WITHIN ARIZONA: In Arizona, from the Red Valley area (N of Navajo, NM) to Wheatfields Lake, Apache County. Possibly in the Chuska and Carrizo mountains, Apache County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial.

PHENOLOGY: Flowering from mid May to early June. Positive identification is only possible during this flowering period.

BIOLOGY:

HABITAT: Typically occurs on windward, windswept mesa rims and nearby habitat with little vegetative cover and high insolation. Typically only found on the nearly white Todilto Limestone Member of the Morrison Formation overlaying Entrada Sandstone or Chinle outcrops. (Roth 2001).

ELEVATION: 7,213 – 7,607 feet (2200–2320 m) (Sivinski 2002).

EXPOSURE: Isotype (NY-335773) collected on WSW-facing edge of mesa.

SUBSTRATE: Todilto Limestone.

PLANT COMMUNITY: In sparse pinyon-juniper woodland. In New Mexico, associated with *Astragalus micromerius* (Chaco milk-vetch) on the Todilto limestone northeast of Thoreau. The adjacent Estrada sandstone stratum supports *Erigeron acomanus* (Acoma fleabane), and the next lower stratum of Chinle shale has *Erigeron sivinskii* (Sivinski's fleabane). (Sivinski 2002).

POPULATION HISTORY AND TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: None
OTHER STATUS: Group 4 (NNDFW, NESL 2005)

MANAGEMENT FACTORS: According to Sivinski (2002), in New Mexico, "mining is a serious current and foreseeable threat to this species. Outcrops of Todilto limestone are not abundant in this region and are actively mined for road base material and also frequently trucked to the Portland cement plant at Tijeras, New Mexico. Habitat at one of the populations has been extensively quarried and the *L. navajoensis* there exist on only a narrow remnant of the mesa rim. This species has not been found on the Todilto limestone outcrops east of Thoreau, some of which have been completely mined out."

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BIA – Navajo Nation.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION:

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